1021-57-139   **Ilesanmi D. Adeboye*** (`adeboye@usc.edu`), University of Southern California, 3620 South Vermont Avenue, KAP 108, Los Angeles, CA 90089-2532. *Volumes of hyperbolic orbifolds.*

A hyperbolic n-orbifold is a quotient of hyperbolic n-space by a discrete group Γ of isometries of $\mathbb{H}^n$. Various authors have previously established explicit lower bounds on the volume of hyperbolic orbifolds of dimension three and of hyperbolic manifolds of any dimension. In pursuit of volume bounds for hyperbolic orbifolds, the presence of torsion elements in the group Γ raise challenges that cannot be handled purely by the techniques developed in the manifold case. We will establish lower bounds on the volume of hyperbolic orbifolds that depend on dimension and the maximum order of the elliptic elements of Γ. We will also discuss progress in refining this result as well as applications. (Received September 01, 2006)